

fragilis, fusco- vel flavo-cornea; spira elevato-conica, apice sub-obtusum; anfractus 7, convexiusculi, ultimus in medio subacutecarinatus, infra carinam parum convexus; apertura vix obliqua, irregulariter subquadrato-rotundata, longitudinis totius  $\frac{8}{17}$  adæquans; peristoma simplex, tenue, margine *externo* in medio leviter angulato, haud expanso, *columellari* superne breviter dilatato et reflexo, perforationem angustam fere obtegente.

Long. 17, diam. supra carinam 11; aperturæ long. 8, diam.  $6\frac{1}{2}$  millim.

*Hab.* Eastern slope of the Drakensberg mountains, at Lydenburg Gold-fields, Transvaal, South Africa.

There are two species closely related to each other, *B. natalensis*, Krauss, and *B. arenicola*, Benson, which also exhibit a very near relationship with the present. In substance they are much alike, being thin and semitransparent, and differ principally in form, colour, and the proportion of the whorls.

*B. drakensbergensis* has a more produced spire than *B. arenicola*, its nearest ally, consists of half a whorl more; the last whorl is smaller, narrower, and less acutely keeled; and the aperture is also smaller. These, together with the difference of coloration, constitute the main distinctions.

The two specimens which I now describe were presented to the British Museum by Mr. G. B. Sowerby, jun.

## MISCELLANEOUS.

### *Remarks on the Yellow Ant.*

PROFESSOR LEIDY remarked that recently, while seeking certain animals beneath stones in the woods near Philadelphia, he had had the opportunity of observing the yellow ant (*Formica flava*) in possession of large numbers of other insects. This fact, in itself common enough, in one respect, was new and of special interest to him, and may be so to others. In one instance a comparatively small colony of the yellow ants had three different insects in their possession, consisting of a species of *Aphis*, a *Coccus*, and the larva of an insect, probably Coleopterous. The *Aphides* were kept in two separate herds, and these were separated from a herd of *Cocci*. The larva was in the midst of one of the former herds. In a larger colony of the yellow ants there was a herd of *Aphides*, which occupied the underpart of one margin of the stone, and was almost ten inches long by three fourths of an inch in breadth. The same colony also possessed a separate herd of *Cocci*, closely crowded and occupying almost a square inch of space. In both colonies the *Aphis* and the *Coccus* were the same. The *Aphis* is pale yellow, with white tubercles on the dorsal surface of the abdominal segments. The *Coccus* is of a dark red hue. Both *Aphides* and *Cocci*, with few exceptions, adhered to the under surface of the stones, and

were not attached to roots. They appeared to be carefully attended by the ants which surrounded them. The larva alluded to was almost six millimetres long, was covered on the back with a thick, white, cotton-like secretion. It was also carefully attended by the ants, which were frequently observed to stroke it with their antennæ. The *Aphides* and *Cocci* were all in good condition, but without visible means of subsistence excepting the neighbouring grass-roots partially extending into the earth beneath the stones, to which it is probable they were at times transferred by their masters.—*Proc. Acad. Nat. Sci. Philad.* 1877, p. 145.

*On some Points in the Organization of the Bryozoa.*

By M. L. JOLIET.

In a preceding note (April 9, 1877) I have stated the reasons which prevented me from regarding as of a nervous nature the supposed colonial nervous system of the *Vesiculariæ*. The investigations that I have made at the Laboratory of Roscoff since the month of May enable me to extend this opinion to the entire group of the Bryozoa, and have furnished me with the following data as to the nature and function of this tissue.

The so called colonial nervous system exists under various forms, sometimes as a branching trunk, sometimes in the form of a plexus in all the Bryozoa that I have examined; almost throughout it attains a great development, and throughout it is composed of the fusiform cells which I have noticed in *Bowerbankia imbricata*. It is in these cells that are formed the floating corpuscles ("floating-cells," "fett-kroppar" of Smitt) which float in the interior of the chambers; it is at the expense of the same tissue that the polypide with its muscles is developed; and, further, it is in its bosom that both the ova and the mother cells of the spermatozoids are formed.

By its great development, by its presence in all Bryozoa, and by its important and multiple functions, this system deserves to be regarded as a fundamental and constituent tissue of the Bryozoan, quite as essential as the endocyst, for which I propose the name of *endosarc*. In all respects the parenchyma of the stems and stolons of the *Pedicellinæ* must be assimilated to it.

The endocyst, which, as Smitt has demonstrated, is not organized, and only presents cellular structure at the peripheral extremities, is, so to speak, charged with the vegetative function—the increase of the colony by the formation of new chambers. The special function of the endosarc is to produce the polypides or the reproductive elements. It is itself derived from the endocyst by simple differentiation of the cells of the extremities in course of growth.

My researches have further enlightened me as to the signification of the brown body, as well as on the mode of fecundation of the ovum and the development of the larva in several species.

The brown body is throughout and in all cases the residue of a polypide which previously inhabited the chamber. It is formed by